Fiscal Year 2020 Annual Energy Report Review

State Government Energy Committee Meeting

January 8th, 2021

Donald Perrin, State Energy Manager, DAS

Colin Capelle, State Procurement Card Manager & Interim State Fleet Program Administrator, DAS

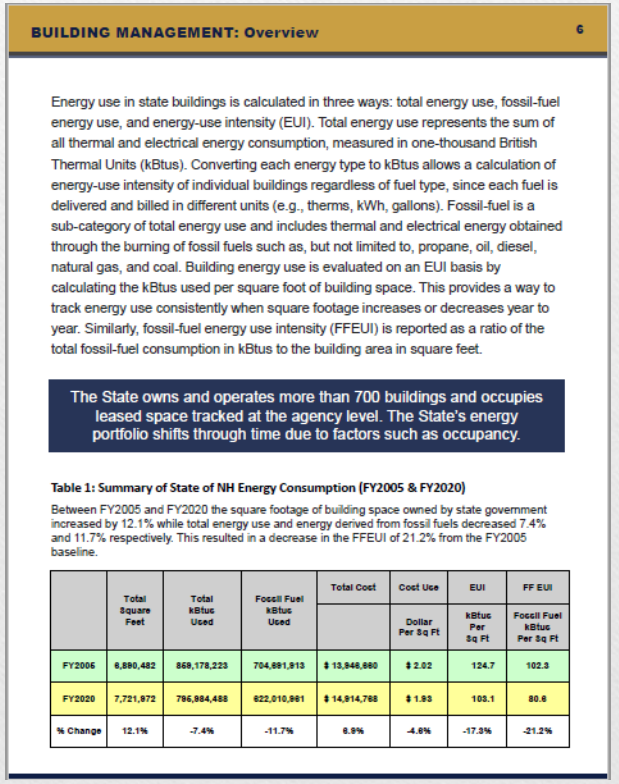
Amy Farnum, Recycling Administrator, DAS

Annual Energy Report Summary

- Building Management (Don Perrin)
  - Report Changes
  - Building Energy Consumption & Costs
    - Energy Consumption (FY 2005 & FY 2020)
    - Fossil Fuel Energy Consumption
    - Fossil Fuel Energy Use Intensity
    - Energy Costs by Fuel Source
  - Agencies Progress Toward FFEUI Reduction Goals by 2020
- Fleet Management (Colin Capelle)
- Sustainable Materials Management (Amy Farnum)

Annual Energy Report Changes

- Presentation and readability of report
- New Sections added
  - Executive Summary
  - Agency Collaboration
  - Sustainable Materials Management
  - Reporting Background Information



BUILDING MANAGEMENT: Overview 6

Energy use in state buildings is calculated in three ways: total energy use, fossil-fuel energy use, and energy-use intensity (EUI). Total energy use represents the sum of all thermal and electrical energy consumption, measured in one-thousand British Thermal Units (kBtus). Converting each energy type to kBtus allows a calculation of energy-use intensity of individual buildings regardless of fuel type, since each fuel is delivered and billed in different units (e.g., therms, kWh, gallons). Fossil-fuel is a sub-category of total energy use and includes thermal and electrical energy obtained through the burning of fossil fuels such as, but not limited to, propane, oil, diesel, natural gas, and coal. Building energy use is evaluated on an EUI basis by calculating the kBtus used per square foot of building space. This provides a way to track energy use consistently when square footage increases or decreases year to year. Similarly, fossil-fuel energy use intensity (FFEUI) is reported as a ratio of the total fossil-fuel consumption in kBtus to the building area in square feet.

The State owns and operates more than 700 buildings and occupies leased space tracked at the agency level. The State's energy portfolio shifts through time due to factors such as occupancy.

Table 1: Summary of State of NH Energy Consumption (FY2005 & FY2020)

Between FY2005 and FY2020 the square footage of building space owned by state government increased by 12.1% while total energy use and energy derived from fossil fuels decreased 7.4% and 11.7% respectively. This resulted in a decrease in the FFEUI of 21.2% from the FY2005 baseline.

	Total Square Feet	Total kBtus Used	Fossil Fuel kBtus Used	Total Cost	Cost Use	EUI	FF EUI
					Dollar Per Sq Ft	kBtus Per Sq Ft	Fossil Fuel kBtus Per Sq Ft
FY2005	6,890,482	869,178,223	704,891,913	$ 13,946,860	$ 2.02	124.7	102.3
FY2020	7,721,972	786,884,488	622,010,981	$ 14,914,768	$ 1.93	103.1	80.6
% Change	12.1%	-7.4%	-11.7%	6.9%	-4.6%	-17.3%	-21.2%

Building Energy Consumption

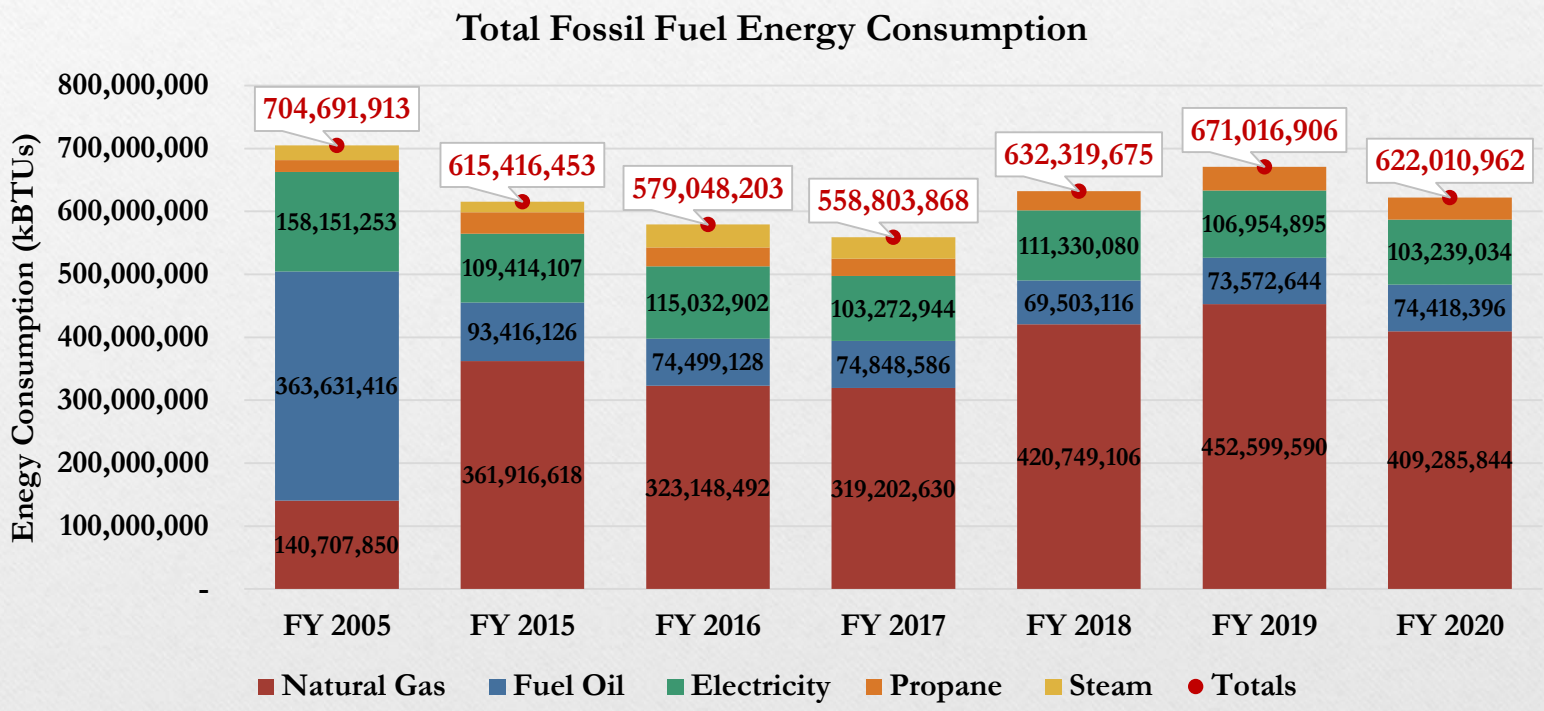
State of NH Energy Consumption (FY 2005 & FY 2020)

	Total Square Feet	Total kBtus Used	Fossil Fuel kBtus Used	Total Cost	Cost Use	EUI	FF EUI
					Dollar Per Sq Ft	kBtus Per Sq Ft	Fossil Fuel kBtus Per Sq Ft
FY2005	6,890,482	859,178,223	704,691,913	$ 13,946,660	$ 2.02	124.7	102.3
FY2020	7,721,972	795,984,488	622,010,961	$ 14,914,768	$ 1.93	103.1	80.6
% Change	12.1%	-7.4%	-11.7%	6.9%	-4.6%	-17.3%	-21.2%

Since FY2005, the State had avoided more than $45.5 million in energy costs.

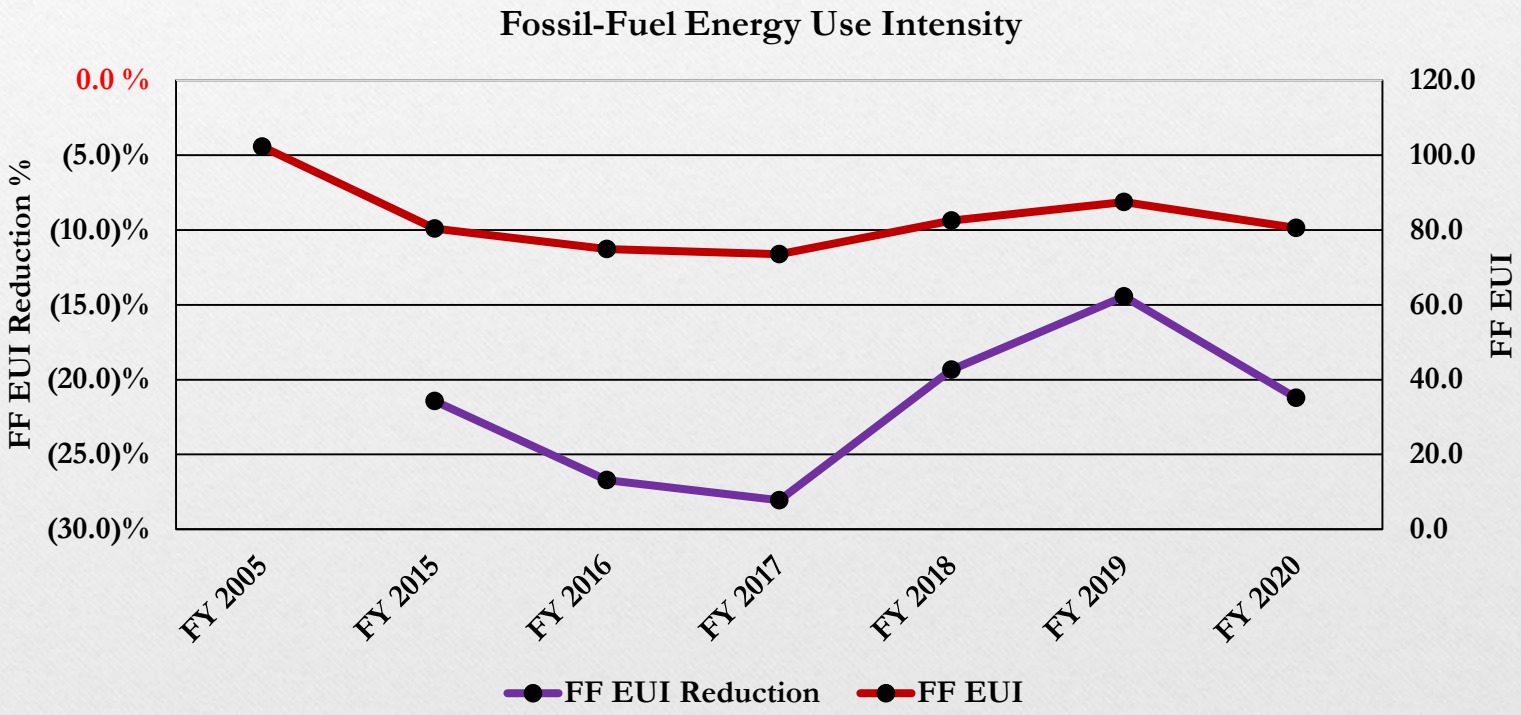
Building Energy Consumption

State of NH Fossil Fuel Energy Consumption



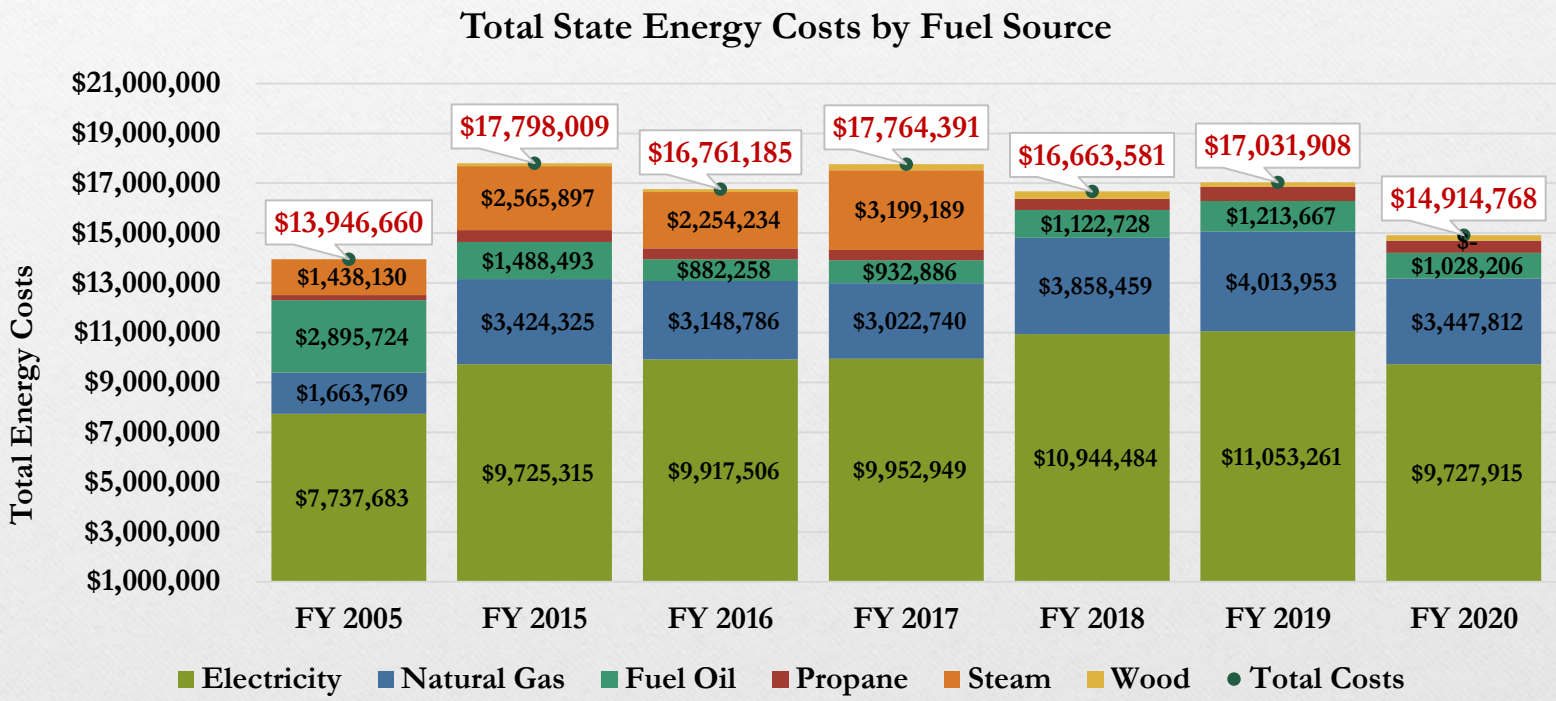
Building Energy Consumption

State of NH Fossil Fuel Energy Use Intensity



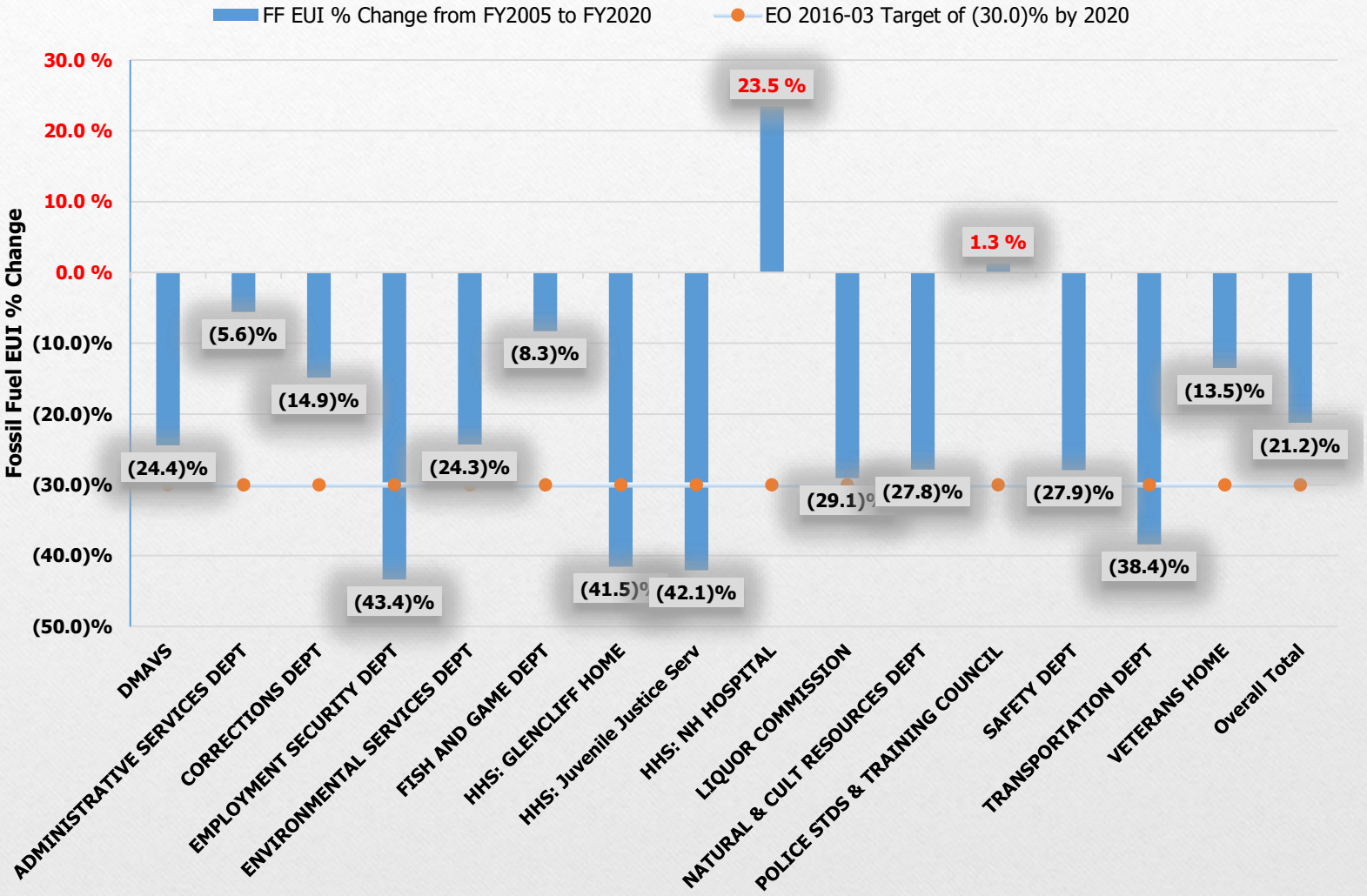
Building Energy Consumption

State of NH Energy Costs By Fuel Source



The State was able to reduce its overall utility costs by $2.1 million in FY2020 over FY2019.

Agencies Progress Toward Fossil Fuel EUI Reduction Goals by 2020



Questions?

Legislation Change Update

- SB 462 / omnibus HB 1245 passed
  - Changes made to the following RSA's
    - RSA 21-I:19-a Energy Management Measures; State Policy
    - RSA 21-I:19-b Definitions
    - RSA 21-I:19-d Energy Performance Contracting
    - RSA 21-I:17-b Purchase of Electricity by Competitive Bidding
    - RSA 21-I:19-e Energy Cost Savings Distribution
    - RSA 21-I:19-f Strategic Energy Investment Fund

RSA 21-I:19-e Energy Cost Savings Distribution

- Prior to the change, the balance in an agency's energy cost budget would revert to the general fund at the end of a fiscal biennium
- Now, 50 percent of the general funds remaining in an agency's energy costs budget at the end of each biennium revert to the State Energy Investment Fund (SEIF)
- Why is the change important
  - The intent is to incentivize reduction in energy consumption through behavior change, reducing energy costs and saving tax dollars
  - Increase the funding set aside for energy efficiency projects, which would result in additional avoided energy costs